SAFETY DATA SHEET
according to US Regulation 29 CFR 1910.1200 and the Canadian HPA

GLB CALCIUM HARDNESS UP

SECTION 1. IDENTIFICATION

Product name : GLB CALCIUM HARDNESS UP

Manufacturer or supplier’s details
Company : Arch Chemicals, Inc.
1200 Bluegrass Lakes Parkway
Alpharetta, GA
30004
United States of America (USA)

E-mail address : sds@lonza.com
Emergency telephone number : In case of emergency call CHEMTREC US: 1-800-424-9300,
CHEMTREC WORLD-WIDE: +1-703-527-3887.

Recommended use of the chemical and restrictions on use
Recommended use : Water treatment chemical

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Acute toxicity (Oral) : Category 4
Skin irritation : Category 2
Eye irritation : Category 2A

GHS label elements
Hazard pictograms :

Signal word : Warning
Hazard statements : H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statements : Prevention:
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for
GLB CALCIUM HARDNESS UP

several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

Disposal:
P501 Dispose of contents/container in accordance with local regulation.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Mixture

Hazardous components

<table>
<thead>
<tr>
<th>Chemical name / Synonyms</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium chloride</td>
<td>10043-52-4</td>
<td>90 - 100</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

If inhaled : IF INHALED: Remove individual to fresh air. Seek medical attention if breathing becomes difficult or if respiratory irritation develops.

In case of skin contact : IF ON SKIN: Immediately flush skin with plenty of water for 15 minutes. If clothing comes in contact with the product, the clothing should be removed immediately and laundered before re-use. Seek medical attention.

In case of eye contact : IF IN EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention immediately.

If swallowed : IF SWALLOWED: Call a physician immediately. DO NOT induce vomiting unless directed to do so by a physician. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed : None known.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific hazards during firefighting : Material will not ignite or burn.

Further information : Use water spray to cool unopened containers. In case of fire, use normal fire-fighting equipment and the personal protective equipment recommended in Section 8 to
include a NIOSH approved self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
- Use the personal protective equipment recommended in Section 8 and a NIOSH approved self-contained breathing apparatus. Prevent further leakage or spillage if safe to do so. Use personal protective equipment as required. Evacuate personnel to safe areas.

Environmental precautions:
- If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up:
- Sweep up and shovel into suitable containers for disposal. Do not flush into surface water or sanitary sewer system. Avoid dust formation.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling:
- Do not take internally. Avoid contact with skin, eyes and clothing. If in eyes or on skin, rinse well with water. Avoid breathing dust.

Conditions for safe storage:
- Store in a cool, dry and well ventilated place. Isolate from incompatible materials.

Materials to avoid:
- Refer to Section 10, "Incompatible Materials."

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Engineering measures:
- Local exhaust ventilation is recommended if significant dusting occurs. Otherwise use general exhaust ventilation.

Personal protective equipment
- Respiratory protection:
  - Respiratory protection not normally needed. If dusting occurs, wear a NIOSH approved N95 dust respirator.

Hand protection

Remarks:
- Impervious gloves

Eye protection:
- Use chemical goggles.

Skin and body protection:
- Impervious clothing
**GLB CALCIUM HARDNESS UP**

**Protective measures**

Emergency eyewash should be provided in the immediate work area.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>pellets</td>
</tr>
<tr>
<td><strong>Colour</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Odour Threshold</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>9.0 - 11.0</td>
</tr>
<tr>
<td></td>
<td>Concentration: 10 g/l</td>
</tr>
<tr>
<td></td>
<td>(as aqueous solution)</td>
</tr>
<tr>
<td><strong>Melting point/freezing point</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Boiling point/boiling range</strong></td>
<td>388.0 °F / 197.8 °C</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>Product is not known to be flammable, combustible, pyrophoric or explosive.</td>
</tr>
<tr>
<td><strong>Flammability (liquids)</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Upper explosion limit</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Lower explosion limit</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Vapour pressure</strong></td>
<td>0.012 hPa (68 °F / 20 °C)</td>
</tr>
<tr>
<td><strong>Relative vapour density</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
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</tr>
<tr>
<td><strong>Density</strong></td>
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<tr>
<td><strong>Bulk density</strong></td>
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<tr>
<td><strong>Water solubility</strong></td>
<td>soluble in cold water</td>
</tr>
<tr>
<td><strong>Partition coefficient: n-octanol/water</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
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</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
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</tr>
<tr>
<td><strong>Viscosity, dynamic</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Viscosity, kinematic</strong></td>
<td>no data available</td>
</tr>
</tbody>
</table>
SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions : Stable under normal conditions. Product will not undergo hazardous polymerization.

Conditions to avoid : Heat
Exposure to moisture

Incompatible materials : Avoid moisture.
Acids
Metals

Hazardous decomposition products : No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Skin
Eyes
Ingestion

Acute toxicity
Acute oral toxicity : LD50 (Rat): Believed to be approximately 1,000 mg/kg
Acute inhalation toxicity : Remarks: no data available
Acute dermal toxicity : LD50 (Rat): Believed to be > 2,000 mg/kg
Acute toxicity (other routes of administration) : Remarks: Powder can cause irritation to eyes, skin & respiratory tract. Liquid solution can cause burns to the skin and eyes.

Skin corrosion/irritation
Remarks: This material is expected to be slightly irritating.

Serious eye damage/eye irritation
Result: Severe eye irritation

Respiratory or skin sensitisation
Remarks: This material is not known or reported to be a skin or respiratory sensitizer.

Carcinogenicity

IARC : No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA : No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.

NTP : No component of this product present at levels greater than or
equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Repeated dose toxicity
Remarks: Not known or reported to cause subchronic or chronic toxicity.

Further information
Remarks: no data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
no data available

Persistence and degradability
no data available

Bioaccumulative potential
no data available

Mobility in soil
no data available

Other adverse effects
Ozone-Depletion Potential : Regulation: US. EPA Clean Air Act (CAA) Section 602 Ozone-Depleting Substances (40 CFR 82, Subpt. A, App A & B) Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : This product is expected to have low toxicity to fish and other aquatic organisms.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues : If this product becomes a waste, it will be a nonhazardous waste. As a nonhazardous solid waste it should be disposed of in accordance with local, state and federal regulations.

SECTION 14. TRANSPORT INFORMATION
SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act
CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards**

See above: SECTION 2. Hazard Identification-GHS Classification

**SARA 313**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Clean Air Act**

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMII Intermediate or Final VOC’s (40 CFR 60.489).

This product does not contain any VOC exemptions listed under the U.S. Clean Air Act Section 450.

**Clean Water Act**

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

**US State Regulations**

**Massachusetts Right To Know**

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
</tr>
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<tbody>
<tr>
<td>Calcium chloride</td>
<td>10043-52-4</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>7447-40-7</td>
</tr>
</tbody>
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**New Jersey Right To Know**

<table>
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</tbody>
</table>
Sodium chloride | 7647-14-5

California Prop. 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Canadian lists

NPRI
Canadian National Pollutant Release Inventory (NPRI): No component is listed on NPRI.

The components of this product are reported in the following inventories:

TSCA: The components of this product are listed on the TSCA Inventory of Existing Chemical Substances.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECl - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50% of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 2019.02.18
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Date format : yyyy/mm/dd

US / EN